

**REMARKS**

Applicant hereby responds to the communication from the Examiner dated May 30, 2001. The communication requested a response to the rejections set forth in the prior Office Action (dated June 20, 2000). The communication set a time period of one month or 30 days, whichever was longer to supply the omission or correction and further stated that "extension of this time period may be granted under 37 CFR 1.136(a)". Therefore, applicant respectfully requests a one (1) month extension of time pursuant to 37 CFR 1.136(a) from June 30, 2001, for the submission of this response.

Applicant confirms the election of claims 1-26 for examination and the cancellation of the remaining claims without prejudice of the applicant's right to file a divisional application.

Reconsideration of the rejection of claims 1-26 under 35 U.S.C. § 103(a) as being unpatentable over applicant's alleged admission considered with **Kaplan et al.** and **Stein et al.**, is respectfully requested. Regarding independent claim 1, there is no teaching or suggestion to combine the "alleged applicant admission" with **Kaplan et al.** and **Stein et al.** to establish a method of inhibiting fouling of heat transfer surfaces comprising contacting the heat transfer surfaces with an effective amount of a thermally-treated phosphorous-sulfur compound. The paragraph bridging pages 3 and 4 of the specification speaks for itself and does not support contacting the heat transfer surface with an effective amount of thermally-treated phosphorous-sulfur compound. The Examiner has even acknowledged that "the applicant does not admit that the recited

antifoulants are thermally treated prior to contacting the surfaces and **Kaplan et al.** does not disclose the thermal treatment per se.” (6/20/00 Office Action , p.5). Furthermore, **Kaplan et al.** does not provide the prerequisite suggestion to be combined with **Stein et al.** The **Stein et al.** reference (at col.1, lines 12-18, col.2, lines 3-10, 23-35, 44-52, col.3, lines 1-5, 47-56) does not discuss or suggest contacting heat transfer surfaces with an effective amount of a thermally treated phosphorous-sulfur treated compound. Because the necessary incentive, teaching or suggestion is absent in the references there is no basis to combine **Kaplan et al.** with **Stein et al.**

Additionally, because **Kaplan, et al.** does not discuss an effective amount of thermally treated phosphorous-sulfur compound and **Stein et al.** does not discuss phosphorous-sulfur compounds, even if the references were combined, *arguendo*, the recitations of claim 1 would not be found. For these reasons independent claim 1 is allowable over the “alleged admission by applicant”, in view of **Kaplan et al.** and **Stein et al.** Claims 2-18 which depend from independent claim 1 are therefore also allowable and the rejection to these claims should be withdrawn.

Additionally, regarding claim 3, there is no discussion, teaching or suggestion in **Kaplan et al.** or **Stein et al.** of a thermally-treated phosphorous sulfur compound being prepared by heating a phosphorus-sulfur compound at a temperature of from about 160° to about 500°C.

Regarding claim 11, there is no discussion, teaching or suggestion in **Kaplan et al.** or **Stein et al.** of a thermally-treated phosphorous-sulfur compound at a temperature of from about 180° to about 280°C.

Regarding claim 12, there is no discussion, teaching or suggesting in **Kaplan et al.** or **Stein et al.** of a thermally-treated phosphorous-sulfur compound being prepared by heating a phosphorous-sulfur compound at a temperature of from about 200° to about 260°C.

Regarding claim 14, there is no discussion or teaching in **Kaplan et al.** or **Stein et al.** of injecting a thermally-treated phosphorous-sulfur compound into a pyrolysis furnace prior to processing the hydrocarbon feedstock.

Regarding claim 15, there is no teaching or suggestion in **Kaplan et al.** or **Stein et al.** of a thermally-treated phosphorous-sulfur compound being injected into a pyrolysis furnace from about 30 minutes to about 24 hours prior to processing the hydrocarbon feedstock.

Regarding claims 16, there is no teaching or suggestion in **Kaplan et al.** or **Stein et al.** of injecting a thermally-treated phosphorous-sulfur compound into a pyrolysis furnace simultaneously with hydrocarbon feedstock.

Regarding claim 17 and 18, there is no teaching or suggestion in **Kaplan et al.** or **Stein et al.** of injecting from about 1 to about 1000 ppm or 10 to 100 ppm of thermally-treated phosphorous-sulfur compound into a pyrolysis furnace.

Regarding independent claim 19, Applicant respectfully reiterates the remarks set forth above regarding the absence of a teaching or suggestion necessary to combine the “alleged applicant’s admission” with **Kaplan et al.** and **Stein et al.** Additionally, neither **Kaplan et al.** nor **Stein et al.** discuss a microthermal reactor being heated such that the

effluent from the microthermal reactor comprises thermally-treated phosphorous-sulfur compound, and injecting the thermally-treated phosphorous-sulfur compound into a pyrolysis furnace coil. Thus, even if **Kaplan et al.** and **Stein et al.** were combined, *arguendo*, such combination could not result in the recitation provided in claim 19. Accordingly, because the prerequisite teaching or suggestion to combine does not exist in **Kaplan et al.** or **Stein et al.**, and even if such references were combined, *arguendo*, such a combination could not result in a microthermal reactor being heated such that the effluent from the microthermal reactor comprises thermally treated phosphorous-sulfur, and injecting the thermally-treated phosphorous-sulfur compound into a pyrolysis furnace coil, independent claim 19 is allowable over the “alleged admission” in view of **Kaplan et al.** and **Stein et al.** Claims 20-26 which depend from allowable independent claim 19 are therefore also allowable and the rejection to these claims should be withdrawn.

Additionally, regarding claim 20, **Kaplan et al.** and **Stein et al.** do not teach or suggest effluent from a microthermal reactor having a temperature of from about 200°C to about 500°C. Therefore, claim 20 is allowable over the stated rejection.

The cited references which were not relied upon are believed to be no more relevant than the relied upon references.

As stated above the applicant requests a one month extension of time for filing the instant response and has provided a check in the amount of \$110.00 and the appropriate petition for the one month extension.

For the reasons set forth above, reconsideration and allowance of all claims at issue are respectfully requested.

Respectfully submitted,

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I hereby certify that this paper is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231 on

July 30, 2001  
*Gary Anne Ewert*